

CLAIMS

1. A method of reducing toxicity of a toxin derivative preparation, comprising contacting said preparation with a ligand which selectively binds to the toxin but not to the toxin derivative.

2. A method according to Claim 1 wherein the ligand binds to an H_C portion of the toxin.

3. A method according to Claim 2 wherein the ligand is or comprises a metal ion which binds to the H_C portion of the toxin.

4. A method according to Claim 1 or 2 wherein the ligand is an antibody that binds to the toxin.

5. A method according to Claim 4 comprising contacting the preparation with a plurality of antibodies which selectively bind the toxin but not the toxin derivative.

6. A method of removing toxin from a toxin derivative preparation comprising contacting the preparation with a ligand according to any of Claims 1 to 5 and further comprising separating the ligand from the toxin derivative preparation.

7. A method according to Claim 6 wherein the ligand is part of or is bound to or is otherwise attached to an affinity column.

8. A method according to Claim 7 comprising adding the toxin derivative preparation to the affinity column and eluting therefrom a preparation from which toxin has been removed.

9. A method according to any of Claims 1 to 8 wherein the toxin derivative is selected from a non-toxic fragment or variant of a toxin, a non-toxic conjugate comprising a fragment or a variant of a toxin and another derivative of a toxin which is obtained directly or indirectly from native toxin.

10. A method according to Claim 9 wherein the derivative is an LH_N fragment.

11. A method according to Claim 9 wherein the derivative is a conjugate of an LH_N fragment with a targeting ligand.

12. A method according to any of Claims 1 to 11, comprising obtaining the toxin derivative by cleavage of native toxin to yield a mixture of uncleaved toxin and toxin derivative, and subjecting that mixture to a purification step to remove uncleaved toxin.

13. A method according to Claim 12 comprising purifying the mixture so as to remove uncleaved toxin by anion - exchange chromatography, cation-exchange chromatography, hydrophobic interaction chromatography or size-exclusion chromatography.

14. An affinity chromatography column, for removal of toxin from a toxin derivative preparation, wherein the column comprises a ligand that selectively binds to toxin but not to the toxin derivative.

15. A column according to Claim 14 wherein the ligand is selected from an antibody, and a toxin receptor.

16. A toxin derivative preparation comprising 1-100 ppm toxin per toxin derivative.

- 22 -

17. A composition comprising a derivative of a toxin and a pharmaceutically acceptable carrier, and further comprising a ligand that binds selectively to the toxin.

5 18. A composition according to Claim 17, comprising a conjugate of a toxin with a ligand that binds selectively to the toxin, wherein the toxin is bound non-covalently to the ligand.

10 19. A composition according to Claim 18 wherein the ligand is an antibody that selectively binds to the toxin.

20. A pharmaceutical composition comprising a toxin derivative or a composition according to any of Claims 16 - 19 in combination with a pharmaceutically acceptable carrier.

15 21. Use of an affinity chromatography column according to Claim 14 or 15 for removal of toxin from a toxin derivative preparation.